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MAJOR PETROLEUM RESERVES AND OIL PRODUCTION RATES IN RUSSIA

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Petroleum (petroleum, from Greek: Petra (rock) + Latin: oleum (oil)) or crude oil is a naturally occurring, flammable liquid consisting of a complex mixture of hydrocarbons of various molecular weights and other liquid organic compounds, that are found in geologic formations beneath the Earth's surface. Crude oil varies greatly in appearance depending on its composition. It is usually black or dark brown (although it may be yellowish, reddish, or even greenish). In the reservoir it is usually found in association with natural gas, which being lighter forms a gas cap over the petroleum, and saline water which, being heavier than most forms of crude oil, generally sinks beneath it. Crude oil may also be found in semi-solid form mixed with sand and water. One barrel of crude oil is equal to 159 liters or 0,136 tones. One barrel per day production amounts to 49.8 tones per year.

The Russian Federation has the world's largest oil producer outside the Organization of Petroleum Exporting Countries (OPEC). Untapped petroleum reserves aren't the only things that come big in Russia. With a border of over 20,100 kilometers and an area of 17,075,200 square kilometers, Russia's size makes it the biggest nation in the world, and perhaps the biggest some of the biggest potential of untapped petroleum resources located in the frigid Arctic. Russia has the largest oil reservoirs outside the Middle East. Russia nearly 5% of the world's oil. Russia's proven oil reserves are 6 700 million tones (mt), most of which are located in Western Siberia, between the Ural Mountains and the Central Siberian Plateau. Approximately 14 billion barrels exist on Sakhalin Island in the far eastern region of the country. Russia produces 10% of the globe's oil production, even if her own oil consumption is only 4%. This means in practice that Russia exports a significant stake of her oil production, approximately every second oil barrel produced in the country goes abroad. Annual oil production in Russia is 505 million tones. Under such production conditions oil reserves will last for around another 17 years (table 1).

Table 1

Summary of Reserve Data as of 2010					
Country	Reserves		Production		Reserve life
	10^9 bbl	10^9 m^3	10^6 bbl/d	10^3 m^3/d	years
Saudi Arabia	267	42.4	9.7	1,540	127.5
Iraq	180	29	3.5	560	142
Canada	179	28.5	2.1	330	188
Iran	138	21.9	4.0	640	95
Kuwait	104	16.5	2.6	410	110
Venezuela	99	15.7	2.7	430	100
United Arab Emirates	98	15.6	2.9	460	93
Russia	60	9.5	9.9	1,570	17
Kazakhstan	47	7.5	1.4	220	93
Libya	41	6.5	1.7	270	66
Nigeria	36	5.7	2.4	380	41
United States	21	3.3	7.5	1,190	8
China	16	2.5	3.9	620	11

Qatar	15	2.4	0.9	140	46
Algeria	12	1.9	2.2	350	15
Brazil	12	1.9	2.3	370	14
Mexico	12	1.9	3.5	560	9
Total of top seventeen reserves	1,243	197.6	63.5	10,100	54

Russia produces almost 7 million bbl/d of liquids for export, only about 4 million bbl/d can be transported in major trunk pipelines; the rest must be shipped by rail and river routes. Most of the 4 million bbl/d transported via alternative routes are petroleum by-products. Due to Russia's high economic dependency on oil exports, depletion of operating fields has quickly become a major issue. At the end of 2006, industry reports indicate the following depletion of major Russian oil producing fields:

- Povkhovskoye (1978) – 99%
- Romashkinskoye (1949) – 85%
- Ust-Balyk-Mamontovskoye (1964) – 85%
- Samotlor (1964) – 73%
- Federovo-Surgutskoye (1973) – 70%
- Sugmutskoye (1995) – 67%
- Pokachevsko-Uryevskoye (1977) – 63%
- Tevlinsko-Russkinskoye (1986) – 49%
- Malo-Balykskoye (1984) – 41%
- Vatyeganskoye (1984) – 37%
- Tyanskoye (1995) – 31%
- Pravdinsko-Salymskoye (1968) – 29%

Discovery of new oil and gas deposits will allow to solve the problem of oil and gas reserves exhaustion. Scientific research concerning mineral prospecting of the Arctic Region depths indicates that it possesses 1/5 of all undiscovered hydrocarbons deposits. Russia does have promising offshore oil and gas resources. It is estimated that about 90 percent of all Russian shelves within the Arctic contain some untapped oil and gas. The shelves are estimated to cover an area of 5.2 to 6.2 million square kilometers and experts estimate that the shelves hold 90 to 100 billion tons of oil equivalents, of which natural gas resources account for 80% of that total.

One of the more promising areas for Russia's energy resources are the offshore basins in the West Arctic's Barents and Kara Seas. The basins cover a total area of 2 million square kilometers and they potentially contain at least 50-60 billion tons of conventional fuel. In the Kara Sea, the Rusanovskoe and Leningradskoe shelves are estimated to hold 5 trillion cubic meters of natural gas, which is staggering when considering that worldwide gas production equals 2 trillion cubic meters a year. In the Barents Sea, the Shtokmanovskoe gas condensate field and the Prirazlomnoe oil field in the area of Pechora Bay are of special interest. The Shtokmanovskoe condensate field is probably the world's largest known offshore gas field. Its reserves total about 3 trillion cubic meters of gas and more than 20 million tons of gas condensate. The Prirazlomnoe oil field amounts to more than 200 million tons. Once developed, these areas are sure to lead to significant changed in the world's system of oil and gas transportation.

Now Russia has the largest reserves of petroleum and natural gas. Petroleum and gas branches are the integral segments of the national fuel and energy complex and are dynamically developing. According to the scale of their overall financial streams and the essential share in the profitable part of the Russian National Budget, these branches take a leading position as compared to the other industries.